

U.S. Serial No. 10/772,345
Applicant: Isao OCHIAI

In the Drawings:

Attached hereto is a separate submission to the draftsman entitled Request for Approval of Drawing Changes in which FIGS. 16 to 18 are labeled as "prior art" as required by the Patent Examiner. Entry of such drawings is respectfully requested. No new matter is added.

REMARKS

In response to the Office Action of May 10, 2006, careful reconsideration of the present application is most respectfully requested.

Objections to the Drawings

In this response, FIGS. 16 to 18 have been amended in accordance with the Examiner's objections. No new matter has been added. Withdrawal of these objections is respectfully requested.

Rejections Based On References

In the Office Action, claims 1, 5 and 7 were rejected under 35 U.S.C. 102(b) as allegedly anticipated by U.S. Patent No. 5,200,366 (Yamada, et al.), and claims 1-6 were rejected under 35 U.S.C. 103 over Japanese Reference No. 06-310642A (JP '642A) taken together with Yamada, et al. These rejections are most respectfully traversed, as follows.

1. The Present Application:

The preferred embodiments of the present application relates to, inter alia, a resin sealing assembly that includes, e.g., the following characteristics. In a contact surface (e.g., of an upper mold and a lower mold) supporting a leadframe in a resin sealing assembly, the contact surface around a boundary of cavity is used as a supporting region of the leadframe. In this regard, a

distance between the contact surface of the upper mold and the contact surface of the lower mold proximate the cavity at a vicinity is about a thickness of the leadframe. See, e.g., paragraph [00037] at pages 13-14 and FIG. 4(B) at 29A . In addition, an air releasing groove is formed on the contact surface of the region letting a first air vent that formed in the leadframe connected with a second air vent. With reference to Figs. 4(B) and 7(B) in this structure (see the explanations of Fig. 4(B) and 7(B) in the present application), a space of the first air vent formed on the leadframe can be used when air in the cavity is drained or when the resin is injected in the cavity. As a result, air in the cavity can be drained through the first air vent surely to the cavity outside and kept away an unfilled region from an end of package. Furthermore, on the leadframe, a resin burr consecutive with a package does not occur. As explained below, in the cited references, the resin burr crush after the process, prevent dents of a lead by the resin burr piece which crushed.

2. The Claims:

In the present application, the claims recite particular features that are not taught or suggested by the cited references. With respect to independent claim 1, the claim recites the following combination of features: "[a] resin sealing mold assembly having an upper mold and a lower mold, comprising: a substantially hexahedral cavity for housing at least a lead frame and a semiconductor element; and at least one air releasing groove formed at contact surface of at least the upper mold or the lower mold positioned at least one corner of the hexahedral cavity; wherein a distance between the contact surface of the upper mold and the contact surface of the lower mold proximate the cavity at a vicinity of the cavity is about a thickness of the lead frame." It is respectfully submitted that the foregoing discussion of the preferred embodiments should not improperly be construed as limiting the broadest

reach of the claims, which are to be interpreted based on the language of the claims.

3. The Cited References:

On the other hand, the Yamada, et al. reference discloses forming of a groove (42) consecutive with a cavity (40) in a lower mold as shown in, e.g., Figs. 1 and 7. In this regard, air and resin in the cavity (40) are drained through the groove (42) to the cavity (40) outside. As a result, a resin burr consecutive with a package is formed in a region of the groove (42). In addition, the JP '642A reference shows forming of a vent part (40) consecutive with a cavity (39) in a top mold (37) and a lower mold (38) in, e.g., Figs. 3-6. In this regard, air and a resin in the cavity (39) are drained through vent part (40) to the cavity (40) outside. As a result, as shown in Fig. 7, a resin burr (54) is continuously formed with a resin package (53).

The references, thus, do not teach or suggest that combinations of features as now claimed in independent claim 1, nor in any of the dependent claims. With reference to newly added claims 8 to 11, it is respectfully submitted that these claims, related to, inter alia, distances between the contact surfaces of the upper mold and the lower mold are also not taught or suggested by the cited references.

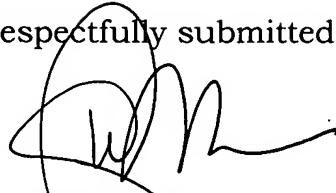
Concluding Remarks

In view of the foregoing amendments and remarks, early reconsideration and allowance are respectfully requested. In the event that any fees are due in

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connection with this filing, please charge or credit our Deposit Account
No. 14-1437.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'S. Parker', written over a horizontal line.

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